PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Shelterwood

Description

Shelterwood is a method used to regenerate a stand by manipulating the overstory and understory to create conditions favorable for the establishment and survival of desirable tree species. The method is designed to regenerate an even-aged stand and normally involves removal of most of the overstory in two or more cuttings after the new stand is established. The overstory serves to modify understory conditions, create a favorable environment for reproduction, and provide a seed source. A secondary function of the overstory is to allow further development of quality overstory stems during seedling establishment to increase the efficient use of growing stock. The system is characterized by a preparatory cut (optional), seeding cut(s), and overstory removal. The most vigorous trees are normally retained and the less vigorous ones removed.

Characteristics

- Even-aged
- Seed origin
- Overstory modifies understory conditions – protects natural reproduction
- Overstory is removed only after regeneration is established
- Method allows for variations in regeneration over space and time
- Overstory generally provides most of the seed

Variations

- **Uniform shelterwood:** A shelterwood applied to the entire stand, designed to regenerate the entire stand at the same time.
- **Strip shelterwood:** The stand is regenerated in strips progressing across the stand over a period of time. Regeneration cutting is concentrated in certain strips.
- **Patch shelterwood:** The stand is regenerated using patches 1-2 acres in size. Regeneration cutting is concentrated in certain patches.

Considerations

General considerations in the application of the overstory removal method are:

- Site evaluation (suitable to meet nutrient-moisture needs of species)
- Level/intensity of competition

- Overstory condition, health, and composition
- Seed tree condition (phenotype), health, and composition (form, crown class, seeding potential, age)
- Determination of existing stand maturity
- Evaluation of existing reproduction
- May involve a preparatory cut
- Conduct seeding cut – allow stand to develop
- Seedbed preparation
- Control competition during good seed year (fire, mechanical, chemical)
- Monitor understory development
- Conduct removal cut

Advantages

- Local, known seed source
- High seedling numbers
- Higher seedling/stand diversity
- Can be repeated if unsuccessful
- Reproduction generally more certain and complete than clearcutting or seed tree
- Overstory develops more rapidly and achieves larger size

Disadvantages

- Application techniques are not well developed for every species
- Requires technical skill to apply this method
- May involve chemical use, scarification, noncommercial cutting, or prescribed burning
- More careful logging practices often required in overstory removal to protect understory
- Seed or preparatory cuts may require care
- Timing to seed crop
- Added time for timber sale establishment